

--14. A method for forming a device comprising steps of:

forming a first layer comprising silicon oxide on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;

forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising at least organic silane, and

cleaning an inside of a reaction chamber in which said second layer has been formed.

15. A method of according to claim 14 wherein the cleaning step is carried out by using an etching gas comprising nitrogen fluoride.

16. A method of according to claim 14 wherein the cleaning of said inside of said reaction chamber is conducted by removing said second layer therefrom in accordance with a reaction, $3\text{SiO}_2 + 4\text{NF}_3 \rightarrow 3\text{SiF}_4 + 2\text{N}_2 + 3\text{O}_3$.

17. A method of according to claim 14 wherein said organic silane is TEOS.

18. A method of according to claim 14 wherein the CVD for forming the first layer is a photo CVD.

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19. A method for forming a device comprising steps of:
- forming a first layer comprising silicon nitride on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;
- forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising at least organic silane, and
- cleaning an inside of a reaction chamber in which said second layer has been formed.

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20. A method of according to claim 19 wherein the cleaning step is carried out by using an etching gas comprising nitrogen fluoride.

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21. A method of according to claim 19 wherein the cleaning of said inside of said reaction chamber is conducted by removing said second layer therefrom in accordance with a reaction, $3\text{SiO}_2 + 4\text{NF}_3 \rightarrow 3\text{SiF}_4 + 2\text{N}_2 + 3\text{O}_3$.

22. A method of according to claim 19 wherein said organic silane is TEOS.

23. A method of according to claim 19 wherein the CVD for forming the first layer is a photo CVD.

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24. A method for forming a device comprising steps of:
forming a first layer comprising silicon oxide on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;

forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising TEOS and nitrogen oxide.

25. A method of according to claim 24 wherein the CVD for forming the first layer is a photo CVD.

26. A method of according to claim 24 wherein said nitrogen oxide is N_2O .

27. A method for forming a device comprising steps of:
forming a first layer comprising silicon nitride on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;

forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising TEOS and nitrogen oxide.

28. A method of according to claim 27 wherein the CVD for forming the first layer is a photo CVD.

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29. A method of according to claim 27 wherein said nitrogen oxide is N_2O .

30. A method for forming a device comprising steps of:
forming a first layer comprising silicon oxide on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;

forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising TEOS and oxygen.

31. A method of according to claim 30 wherein the CVD for forming the first layer is a photo CVD.

32. A method for forming a device comprising steps of:
forming a first layer comprising silicon nitride on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;

forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising TEOS and oxygen.

33. A method of according to claim 32 wherein the CVD for forming the first layer is a photo CVD.

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34. A method for forming a device comprising steps of:

forming a first layer comprising silicon oxide on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;

forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising TEOS and nitrogen oxide, and

cleaning an inside of a reaction chamber in which said second layer has been formed.

35. A method of according to claim 34 wherein the cleaning step is carried out by using an etching gas comprising nitrogen fluoride.

36. A method of according to claim 34 wherein said nitrogen oxide is N_2O .

37. A method of according to claim 34 wherein the cleaning of said inside of said reaction chamber is conducted by removing said second layer therefrom in accordance with a reaction, $3\text{SiO}_2 + 4\text{NF}_3 \rightarrow 3\text{SiF}_4 + 2\text{N}_2 + 3\text{O}_3$.

38. A method of according to claim 34 wherein the CVD for forming the first layer is a photo CVD.

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A method for forming a device comprising steps of:
forming a first layer comprising silicon oxide on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;
forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising TEOS and oxygen, and
cleaning an inside of a reaction chamber in which said second layer has been formed.

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40. A method of according to claim 38 wherein the cleaning step is carried out by using an etching gas comprising nitrogen fluoride.

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41. A method of according to claim 38 wherein the cleaning of said inside of said reaction chamber is conducted by removing said second layer therefrom in accordance with a reaction, $3\text{SiO}_2 + 4\text{NF}_3 \rightarrow 3\text{SiF}_4 + 2\text{N}_2 + 3\text{O}_2$.

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A method of according to claim 38 wherein the CVD for forming the first layer is a photo CVD.

43. A method for forming a device comprising steps of:
forming a first layer comprising silicon nitride on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH_4 and Si_2H_6 ;

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forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising TEOS and nitrogen oxide, and

cleaning an inside of a reaction chamber in which said second layer has been formed.

44. A method of according to claim 43 wherein the cleaning step is carried out by using an etching gas comprising nitrogen fluoride.

45. A method of according to claim 43 wherein said nitrogen oxide is N₂O.

46. A method of according to claim 43 wherein the cleaning of said inside of said reaction chamber is conducted by removing said second layer therefrom in accordance with a reaction, $3\text{SiO}_2 + 4\text{NF}_3 \rightarrow 3\text{SiF}_4 + 2\text{N}_2 + 3\text{O}_3$.

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47. A method of according to claim 43 wherein the CVD for forming the first layer is a photo CVD.

48. A method for forming a device comprising steps of:
forming a first layer comprising silicon nitride on a surface by CVD using a first reactive gas containing a gas selected from the group consisting of SiH₄ and Si₂H₆;

forming a second layer comprising silicon oxide on said first layer by plasma CVD using a second reactive gas comprising TEOS and oxygen, and

cleaning an inside of a reaction chamber in which said second layer has been formed.

49. A method of according to claim 48 wherein the cleaning step is carried out by using an etching gas comprising nitrogen fluoride.

50. A method of according to claim 48 wherein said nitrogen oxide is N_2O .

51. A method of according to claim 48 wherein the cleaning of said inside of said reaction chamber is conducted by removing said second layer therefrom in accordance with a reaction, $3SiO_2 + 4NF_3 \rightarrow 3SiF_4 + 2N_2 + 3O_3$.

52. A method of according to claim 48 wherein the CVD for forming the first layer is a photo CVD.--

REMARKS

The Office Action of January 26, 1999 was received and carefully reviewed. Reconsideration and withdrawal of the currently pending rejections are requested for the reasons advanced in detail below.

Claims 1-13 were pending prior to the instant amendment. By this amendment, new claims 14-52 are added to recite additional features of the present invention to which Applicants are entitled. Consequently, claims 1-52 are currently pending in the instant application.